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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,751	09/19/2003	Jeffrey D. Rutland	10011934-2	6973

7590

04/20/2004

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EXAMINER

HUFFMAN, JULIAN D

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,751	RUTLAND ET AL.	
	Examiner	Art Unit	
	Julian D. Huffman	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,9 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8,9 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 12-16 and 18-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Kuwabara et al.

Kuwabara et al. disclose an ink jet imaging device to generate a smudge resistant image, the device comprising:

a processor (fig. 7a, element 1014) coupled to a memory (1015, 1016), the memory containing computer-executable instructions for:

generating, by a first carriage in a printing zone, an image on a print medium (column 44, lines 8-18); and

depositing, by a second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image to form a substantially smudge resistant image (column 44, line 43-column 45, line 4);

wherein the imaging device is an ink jet imaging device;

wherein the image is generated by one or more first pens (fig. 17, element 1500) positioned on the first carriage (1502), and wherein the overcoat and fixer solution are

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deposited by one or more second pens (1600) positioned on the second carriage (1602);

wherein the overcoat solution in combination with the fixer solution are water insoluble (column 3, lines 47-53, column 4, lines 61-66 and column 20, lines 2-6);

wherein the overcoat solution comprises an acrylate polymer (column 42, lines 5-10);

wherein, while generating the image and depositing the overcoat solution, the processor operates the first carriage independently with respect to synchronization from the second carriage (the carriages are controlled independently since the fixing carriage would not be traversed until a portion of the image printed by the printing carriage reaches the fixing carriage).

Kuwabara et al. also disclose:

means for forming, by a first carriage (1502) in a printing zone, an image on a print medium;

means for depositing, by a second carriage (1602) in an image protecting zone, an overcoat solution and a fixer solution onto the image such that the image is substantially smudge resistant; and

means for partially drying the image before depositing the overcoat and the fixer solutions (fig. 18, element 300, 310, column 46, lines 1-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara et al. in view of Moriyama et al.

Kuwabara et al. disclose everything claimed with the exception of blooming the overcoat and the fixer solutions for a distance of one or more droplets beyond an edge of the image.

Moriyama et al. disclose blooming the overcoat over the edge (column 7, lines 59-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kuwabara et al. and expand the ejection of the overcoat and fixer solutions outside of the edge of the image, as taught by Moriyama et al. The reason for performing the modification would have been to compensate for drop deviation (column 7, lines 59-67).

5. Claims 1, 2, 4, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara et al. in view of Murakami et al. (JP 401063185A).

Kuwabara et al. disclose a method for generating a smudge resistant image with an ink jet imaging device, the method comprising:

generating, using a first carriage in an image printing zone, an image on a print medium (column 44, lines 8-18);

depositing, using a second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image to form a substantially smudge resistant image (column 44, line 43-column 45, line 4);

wherein generating the image is performed by at least one first pen (1500) and depositing the overcoat and fixer solution is performed by at least one second pen (1600);

wherein the printing zone is separate from the image protecting zone (fig. 17);

wherein the overcoat solution in combination with the fixer solution is water insoluble (column 3, lines 47-53, column 4, lines 61-66 and column 20, lines 2-6);

wherein the overcoat solution comprises an acrylate polymer (column 42, lines 5-10);

wherein the fixer solution comprises a low molecular weight polymer with a high charge density (column 21, lines 56-63 and column 22, lines 1-2); and

partially drying the image before depositing the overcoat and the fixer solutions (fig. 18, element 300, 310, column 46, lines 1-15).

Kuwabara et al. do not disclose the second pen ejecting the fixer and overcoat solution having a larger drop volume than the first pen ejecting the imaging ink, or blooming the overcoat and fixer solution for a distance of one or more droplets beyond an edge of the image such that portions of the print medium that are more than the distance of one or more droplets beyond an edge of the image are not coated with the overcoat and/or the fixer.

Murakami et al. disclose ejecting a fixing solution for "insolubilizing" ink, wherein the dot diameter of the fixing solution is greater than the dot diameter of the ink (abstract). Murakami et al. also disclose blooming the fixing solution a distance of one or more droplets beyond an edge of the image such that portions of the print medium that are more than the distance of one or more droplets beyond an edge of the image are not coated with the overcoat and/or the fixer (fig. 5 shows blooming of the fixing solution 2 one dot beyond that of the ink).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kuwabara et al. such that the droplets ejected by the fixing and overcoat printing head are larger in volume than the ink ejected by the ink printing head and bloom beyond the image data by one dot. The reason for doing such would have been to prevent nozzles from being clogged with the fixing solution, thereby improving reliability of the printer, reducing the cost of the printer and preventing dot deviation from effecting the image quality.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571)272-2147. The examiner can generally be reached Monday through Friday from 9:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, can be reached at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JH

April 9, 2004



Thinh Nguyen
Primary Examiner
Technology Center 2800